

Testing Volume Requirements

Hematology

Complete Blood Count	500 µL EDTA Whole blood + slide made at site. Do not freeze!
CBC w/diff	500 µL EDTA Whole blood + slide made at site. Do not freeze!
CBC/diff/retic	500 µL EDTA Whole blood + slide made at site. Do not freeze!
Reticulocyte Count	500 µL of whole blood - or -NMB stained slides – 2 slides

Coagulation

Prothrombin Time (PT)	200 µL frozen citrate plasma ¹
Activated Partial Prothrombin Time (APTT)	200 µL frozen citrate plasma ¹
Fibrinogen (FIB)	200 µL frozen citrate plasma ¹
Thrombin Time (TT)	200 µL frozen citrate plasma ¹
Fibrin Degredation Products (FDP)	500 µL frozen citrate plasma ¹ (non-GLP)
D-Dimer	200 µL frozen citrate plasma ¹

¹ Sample must be collected in tube with ratio of 1 part sodium Citrate and 9 parts blood.
Special tubes must be made for small volumes.

Urinalysis

Urinalysis	5 mL or entire specimen of urine refrigerated unspun. ¹
Osmolarity	100 µL or entire specimen of urine refrigerated unspun. ¹

¹ Provide total volume. Preferred collected over a timed period. Provide time period.

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Clinical Chemistry minimum sample for one test is 150 µL

Albumin	Gamma Glutamyl Transferase (GGT)
Alkaline Phosphatase (ALP)	Glucose (GLU)
Alanine Aminotransferase (ALT)	Lactate Dehydrogenase (LD)(LDH)
Aspartate Aminotransferase (AST)	Lipase (LIP)
Amylase (AMYL)	Magnesium (MG)
Bilirubin, Direct (DBili)	Phosphorus (PHOS)
Bilirubin, Total (TBili)	Potassium (K)
Calcium (CA)	Sodium (NA)
Chloride (Cl)	Triglycerides (TRIG)
Cholesterol (CHOL)	Total Protein (TPRO)
Creatine Kinase (CK) or (CDK)	Urea Nitrogen (BUN)
Creatinine (CREAT)	

¹Up to 20 tests can be performed on 350 µL of frozen or refrigerated serum. Separate from cells within 1 hour of collection.

Indirect Bilirubin is a calculated parameter and requires Total and Direct Bilirubin.
(No additional sample volume.) Urea/Creatinine Ratio, Anion Gap calculated.

Globulin and A/G ratio are calculated parameters and require Total Protein and Albumin.
(No additional sample volume.)

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Special Chemistry

Alkaline Phosphatase Isoenzymes (Non-GLP)	500 µL frozen serum
Aldolase (ALD)	200 µL serum preferred, 100 µL minimum
Apolipoprotein (A-1, B)	200 µL serum preferred, 100 µL
Bile Acids	200 µL serum preferred, 100 µL
CK Isoenzymes	500 µL serum preferred, 250 µL minimum
CH50 Total Complement	200 µL serum preferred, 100 µL
C3 Complement (Monkey)	200 µL serum preferred, 100 µL minimum
C4 Complement (Monkey)	200 µL serum preferred, 100 µL minimum
C-Reactive Protein (CRP)	100 µL serum preferred, 50 µL minimum.
Erythropoietin (EPO)	250 µL serum preferred, 200 µL minimum
Ferritin	200 µL serum preferred, 100 µL minimum
Free Fatty Acids (NEFA)	200 µL serum preferred, 100 µL minimum
Plasma Free Hemoglobin (PFH)	200 µL <u>Heparinized plasma</u> preferred, 100 µL minimum
Fructosamine	200 µL serum preferred, 100 µL minimum
GLDH	200 µL serum preferred, 100 µL minimum
HDL Cholesterol	200 µL serum preferred, 100 µL minimum
Haptoglobin	200 µL serum preferred, 100 µL minimum
HbA1C	200 µL EDTA whole blood, 100 µL minimum
Hydroxybutarate	200 µL serum preferred, 100 µL minimum
Immunoglobulin A (IgA)	200 µL serum preferred, 100 µL minimum
Immunoglobulin E (IgE)	200 µL serum preferred, 100 µL minimum
Immunoglobulin G (IgG)	200 µL serum preferred, 100 µL minimum
Immunoglobulin M (IgM)	200 µL serum preferred, 100 µL minimum
Iron	200 µL serum preferred, 100 µL minimum
LD Isoenzymes	500 µL serum room temperature, ship immediately, do not freeze or refrigerate.
LDL Cholesterol	200 µL serum preferred, 100 µL minimum
Lactic Acid	200 µL Fluoride Plasma sodium fluoride-potassium oxalate plasma
Leptin	100 µL serum preferred, 50 µL minimum
Alpha 2 ₁ Macroglobulin	100 µL serum preferred, 50 µL minimum
Myoglobin	200 µL serum preferred, 100 µL minimum

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Special Chemistry (Continued)

NAG	200 µL urine unpreserved preferred, 100 µL minimum
5'-Nucleotidase	200 µL serum preferred, 100 µL minimum
p-Aminohippuric Acid (PAH)	100 µL of serum or heparinized plasma, 200 µL urine
Phopholipids	200 µL serum preferred, 100 µL minimum
Protein Electrophoresis	500 µL serum
Sorbitol Dehydrogenase (SDH)	200 µL serum preferred, 100 µL minimum
Tranferrin	100 µL (Monkey), 50 µL rat, rabbit
Unsaturated Iron Binding capacity (UIBC)	200 µL serum preferred, 100 µL minimum

Immunoassays

Adrenocorticotrophic Hormone (ACTH)	200 µL EDTA plasma preferred, 100 µL minimum. Collect in cold siliconized tube, separate and freeze immediately.
Aldosterone	500 µL serum preferred, 150 µL minimum
Calcitonin	Rat – 500 µL of serum preferred, 250 µL minimum. Non-Rodents - 500 µL of serum preferred, 200 µL minimum.
Corticosterone	200 µL serum preferred, 150 µL minimum
Cortisol	200 µL serum preferred, 120 µL minimum
C-Peptide	200 µL serum preferred, 120 µL minimum
Estradiol	500 µL serum preferred, 300 µL minimum
Folic Acid	500 µL Heparinized Plasma preferred, 250 µL minimum 200 µL pipetted. For Whole Blood – Record Hematocrit. 100 µL of blood in 2 mL of 1% ascorbic acid (fresh) Freeze immediately.
Follicle Stimulating Hormone (FSH)	500 µL serum preferred, 150 µL minimum
Gastrin	300 µL serum preferred, 200 µL minimum
Glucagon	500 µL EDTA Plasma with 5000 U Trasylol/10 mL of blood, 250 µL minimum
Growth Hormone	500 µL serum preferred, 200 µL minimum

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Immunoassays (Continued)

Histamine	250 µL EDTA plasma, 100 µL minimum Freeze immediately.
Insulin-Like growth Factor (IGF-1)	Rat - 100 µL serum preferred, 50 µL minimum. NHP - 100 µL serum preferred, 50 µL minimum.
Insulin	100 µL serum preferred EDTA or heparin acceptable, 50 µL minimum.
Luteinizing hormone (LH)	500 µL serum preferred, 150 µL minimum 100 µL pipetted
Osteocalcin	Rat - 100 µL serum preferred (Heparin acceptable), 50 µL minimum. NHP - 100 µL serum preferred, 50 µL minimum.
Parathyroid Hormone (PTH-intact)	Rat - 500 µL serum preferred, 250 µL minimum Non-Rodent - 200 µL serum preferred, 150 µL minimum.
Pro-BNP	200 µL serum preferred, 150 µL minimum
Progesterone	200 µL serum preferred, 125 µL minimum No gel separators
Prolactin	500 µL serum preferred, 200 µL minimum Canine - 100 µL serum preferred, 50 µL minimum
Reverse T3	150 µL serum preferred (Heparin acceptable), 125 µL minimum
Thyroid Stimulating Hormone (TSH)	500 µL serum preferred, 150 µL minimum
Testosterone	150 µL serum preferred (Heparin acceptable), 120 µL minimum
Thyroxine (T4)	125 µL serum preferred (Heparin acceptable), 115 µL minimum
Free T3	200 µL serum preferred, 150 µL minimum
Free T4	200 µL serum preferred, 100 µL minimum
Tri-iodothyronine (T3)	150 µL serum preferred (Heparin acceptable), 125 µL minimum
Troponin I (Cardiac, Skeletal)	175 µL serum preferred (Heparin acceptable)
Vitamin B12	250 µL serum preferred (Heparin acceptable), 200 µL minimum

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Reference Ranges

Reference ranges are available upon request. These reference ranges are not GLP compliant. Reference ranges are not established at Antech GLP as the philosophy of ANTECH[®] Diagnostics GLP is the concurrent controls of matched sex, age, supplier, sample site collection and fasting status best reflect the current metabolic status of the animals. Reference ranges are taken from literature and Antech Diagnostics.

Methodology

The methodologies used at ANTECH[®] Diagnostics GLP are considered proprietary information. General information about the methodology will be provided to clients with signed confidentiality agreements. Method reports also contain general method descriptions.

General Methods

Hematology – Siemens Advia 2120i Multispecies Hematology System

Coagulation – Sysmex CS-2500 Coagulation System

Urinalysis – Siemens – Clinitek Advantus System

Manual specific gravity by refractometer

Osmolality by Advanced Osmometer

Clinical Chemistry – Beckman Coulter AU680 Clinical Chemistry System

Immunoassays – Vary by analyte - measured by Siemens Immulite 1000 analyzer, Cobra Packard Gamma Counter for RIA methods or Molecular Devices Microplate Reader and Helena Spife Touch.